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| 10/029,735 | 12/21/2001 | Atul Saini | FIOI-001 | 5056 |
| 7590 09/30/2005 William L. Botjer PO Box 478 Center Moriches, NY 11934 | | | EXAMINER DENNISON, JERRY B | |
| | | | ART UNIT 2143 | PAPER NUMBER |
| DATE MAILED: 09/30/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/029,735

Applicant(s)

SAINI ET AL.

Examiner

J. Bret Dennison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Action is in response to Application Number 10/029,735 received on 21 December 2001.
2. Claims 1-48 are presented for examination.

Claim Objections

3. Claim 29 is objected to because of the following informalities: Claim 29 includes the following typo, "choosing the component programs from set of available component programs" on lines 8-9. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 6 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The Specification recites, "The component programs present on each node are **only concerned with** taking the data presented by **the controller programs** on their input ports, processing the data and writing the results to their output ports. **The controller programs provide an infrastructure for the component programs to interact with each other...**" (see Specification, page 9 lines 30-34).

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Claim 6 recites, "The system as recited in claim 1 wherein the component programs are adaptors for communicating with external applications that are not installed within the system".

In short, claim 6 states the component programs performing the communication with each other. However, the Specification states that the component programs are only in communication with the controller programs which handle communication between different systems.

Examiner's understanding of the intended invention is that the complexity of the component programs is reduced due to the fact that they do not handle the communication process between component programs. This raises questions of enablement to Examiner and further explanation is required.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claims 3-5 recite the negative limitation, "wherein the component programs do not have any memory data pertaining to...". Examiner suggests rather than stating that the component programs do not have any memory data, to state what does have this

memory data. For example, "A routing subprogram that establishes routes between the controller programs, the routing subprogram having memory data pertaining to...."

6. Claim 26 recites the limitation "the distributed application" in lines 21 and 23.

There is insufficient antecedent basis for this limitation in the claim.

7. Claim 28 recites the limitation "the participating computing units" in lines 3-4.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8-12, 15, 17-19, and 22-26 and 39 are rejected under 35

U.S.C. 102(b) as being anticipated by Ciscen et al. (U.S. Patent Number 5,634,010).

8. Regarding claims 1, 26, and 39, Ciscen disclosed a system for developing distributed applications over a network of computing units, the system comprising:

a. a plurality of component programs installed over the network of computing units to create the distributed application (Ciscen, col. 2, lines 31-35);

b. a plurality of data stores on one or more of the computing units comprising a plurality of routes for data transfer between the component programs and a plurality of

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parameters for configuring the component programs (Ciscon, col. 2, lines 45-65, col. 11, lines 5-25); and

c. a plurality of controller programs running on one or more of the computing units in the network for interacting with the component programs and for interacting with other controller programs to send and receive data by referring to routing information from the data stores (Ciscon, col. 2, lines 45-60).

Claims 26 and 39 include limitations that are substantially similar to those of claim 1, and are therefore rejected under the same prior art as claim 1.

9. Regarding claim 2, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the component programs perform

10. pre-determined computational logic on data streams presented on their input

11. ports (Ciscon, col. 11, lines 30-35).

12. Regarding claim 3, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the component programs do not

13. have any memory data pertaining to the routing of data between component

14. programs in the distributed application (Ciscon, col. 2, lines 45-55, Ciscon disclosed the local routers as a separate process that handles the data routing addresses and interests).

15. Regarding claim 4, Cisco disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the component programs do not

16. have any memory data pertaining to locations of any other component

17. programs in the distributed application(Cisco, col. 2, lines 45-55, Cisco disclosed the local routers as a separate process that handles the data routing addresses and interests).

18. Regarding claim 5, Cisco disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the component programs do not

19. have any memory data pertaining to inter-relationships and the organization of

20. other component programs in the distributed application(Cisco, col. 2, lines 45-55, Cisco disclosed the local routers as a separate process that handles the data routing addresses and interests).

21. Regarding claim 6, Cisco disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the component programs are adaptors for communicating with external applications that are not installed within the system (Cisco, col. 3, lines 5-10).

22. Regarding claim 8, Cisco disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the data store can be changed by adding,

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removing or hot-swapping component programs and message routes while the distributed application is running (Ciscon, col. 11, lines 20-35).

23. Regarding claim 9, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the data store can be replicated for high availability on a multiplicity of computing units (Ciscon, col. 2, lines 57-62).

24. Regarding claim 10, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the controller program is a daemon program (Ciscon, col. 11, lines 25-35, col. 12, lines 60-67).

25. Regarding claim 11, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the controller program of the computing unit on which the distributed application is created disseminates the routing information in the data store to all the other controller programs that interact with the component programs that form part of the distributed application (Ciscon, col. 11, lines 20-35).

26. Regarding claim 12, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the controller program sends and receives data streams to and from the component programs installed on its computing unit or on other computing units, using an Application Programming Interface (Ciscon, col. 12, lines 15-35).

27. Regarding claim 15, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the controller program has access to a message queue for sending and receiving data streams to and from other controller programs (Ciscon, col. 2, lines 55-60).

28. Regarding claim 17, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the component program accesses the message queue with network publish and network retrieve commands without addressing or routing parameters (Ciscon, col. 2, lines 45-60).

29. Regarding claim 18, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the controller program sends and receives data from other controller programs through a message bus (Ciscon, col. 2, lines 60 through col. 3, line 5).

30. Regarding claim 19, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the controller program sends and receives data to and from other controller programs directly (Ciscon, col. 2, lines 60 through col. 3, line 5, col. 12, lines 60-65).

31. Regarding claim 22, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the controller program monitors the run-time

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status of the component programs and the message routes between them and sends this information to other controller programs through the message bus (Ciscon, col. 13, lines 55 through col. 14, line 15).

32. Regarding claim 23, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the controller program monitors and controls component programs by gathering the run time data of all the computer programs in the distributed application (Ciscon, col. 14, lines 40-55).

33. Regarding claim 24, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the controller program controls networking hardware, storage hardware, instruments and machines connected to the computing units (Ciscon, col. 13, lines 25-45).

34. Regarding claim 25, Ciscon disclosed the limitations, substantially as claimed, as described in claim 1, including wherein the controller program can be used to control the component programs running on that computing unit as well component programs running on other computing units in the network (Ciscon, col. 13, lines 15-23).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 13, 14, 16, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cisco.

35. Regarding claims 7 and 14, Cisco disclosed the limitations, substantially as claimed, as described in claim 1. Cisco also disclosed that the routers can be used with different communication protocols (Cisco, col. 3, lines 18-20). Cisco did not explicitly state wherein the data store containing the message routes between the component programs is in extensible mark up language. Since extensible mark up language (XML) was well known at the time of the invention, it would have been obvious for one of ordinary skill in the art to use XML as the programming language to reduce the complexity of the application codes (Cisco, col. 4, lines 44-47).

36. Regarding claims 13 and 16, Cisco disclosed the limitations, substantially as claimed, as described in claim 1. Cisco also disclosed that the Application processes are connected to their respective local routers, where the router acts as an interface between its respective local application processes and the other routers (Cisco, col. 2, lines 45-55). Cisco also disclosed that developers must deal with data queuing and other problems associated with transferring information between independent pieces of the application (Cisco, col. 1, lines 45-50). Cisco did not explicitly state wherein the component program has access to a message queue for sending and receiving data

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streams to and from their controller programs. However, since Cisco disclosed handling data queuing between independent processes, and also the router process and application process are independent of each other, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the application process to have access to a message queue for interfacing with the router process to send and receive data streams to and from the router to allow for a data management and distribution system that reduces the complexities of using distributed applications in a complex network (Cisco, col. 2, lines 30-35) by placing the burden of managing the network communications on the local routers (Cisco, col. 3, lines 4-9).

37. Regarding claims 20 and 21, Cisco disclosed the limitations, substantially as claimed, as described in claim 1. Cisco also disclosed a startup event initiated by a router (Cisco, col. 13, lines 15-25). Cisco did not explicitly disclose wherein the controller program launches the component programs that have been installed on its computing unit in the network by giving a launch command. However, it would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the router initiating a launch command to child processes in order for them to process incoming objects.

Claims 1, 26, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in the Background of Applicant's Specification, hereinafter referred to by APA.

38. Regarding claims 1, 26, and 39, APA disclosed a system for developing distributed applications over a network of computing units, the system comprising:

- a. a plurality of component programs installed over the network of computing units to create the distributed application (APA, page 1, lines 18-25);

- b. a plurality of data stores on one or more of the computing units comprising a plurality of routes for data transfer between the component programs and a plurality of parameters for configuring the component programs (APA, page 2, lines 18-35, page 3, lines 10-14, 20-25, APA states that the routes and workflow are stored within the memory of the system); and

- c. a plurality of controller programs running on one or more of the computing units in the network for interacting with the component programs and for interacting with other controller programs to send and receive data by referring to routing information from the data stores (APA, page 3, lines 20-33, The central server is a computing unit within the network).

Claims 27-38 and 40-48 include limitations that are substantially similar to those of claims 1-25 and are therefore rejected under the same prior art used in the rejections of claims 1-25 as being substantially similar.

Conclusion

Examiner's Note: It is presumed that claims 39-48 invoke "means plus function" language and interpretation in accordance with 35 USC 112 sixth paragraph. In order to verify and ascertain the metes and bounds of the claimed invention, Applicant is requested to isolate the portion(s) of the specification which dictates the structure relied on for proper interpretation if this presumption is appropriate.

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Examiner's Note: In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Bret Dennison whose telephone number is (571) 272-3910. The examiner can normally be reached on M-F 8:30am-5pm.

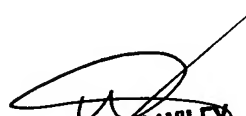
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J. B. D.
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